

What is claimed is:

1. An electrically heated liquid kettle comprising a vessel for holding a liquid for
5 extraction of tea, coffee, or other food material, said vessel including a partially open
immersible container sized to allow passage of liquid between the walls of said
vessel, said container being capable of holding the material while providing an
opening in said container to allow entrance of liquid therein upon immersion of said
10 container in liquid, and said heated kettle incorporating structure to hold said
container out of the liquid until the liquid reaches appropriate extraction temperature
and to immerse or withdraw said container into or from liquid as necessary to
accomplish said extraction.
2. An electrically heated liquid kettle according to Claim 1 where said structure to hold
15 said container is a rod attached to said container, said rod extending to the exterior of
said vessel.
3. An electrically heated liquid kettle according to Claim 1 where said structure to hold
said container out of liquid is a mechanical arm actuated by an electromagnetic
solenoid that presses against a physical feature of said container.
4. An electrically heated liquid kettle according to Claim 3 with an electrical switching
20 structure to actuate said electromagnetic solenoid to hold or release said container.
5. An electrically heated liquid kettle according to Claim 1 where said structure to hold
said container is an electromagnet, and said container including a ferromagnetic
structured element attracted and held by a magnetic field of said electromagnet.
6. An electrically heated liquid kettle according to Claim 1 containing said partially
25 open immersible container, said opening to allow entrance of liquid at least in part
being a meshed screen and an adjustable shutter adjacent said screen to permit the
adjustment of the effective area of the entrance of liquid.

7. An electrically heated liquid kettle according to Claim 1 including user operated electrical controls to preprogram the desired extraction temperature and to preprogram the desired brewing time.
8. An electrically heated liquid kettle according to Claim 7 including an electrical processor to store a more than one combination of programmed temperature and times selected for different brewing conditions and to permit user access to said combinations.
9. An electrically heated liquid kettle comprising a vessel for holding a liquid for extraction of tea, coffee or other food material, an electric heater powered by an electrical controller to heat the liquid to a predetermined set temperature, a sensor to measure temperature of the liquid and create an electronic temperature signal corresponding to the temperature, an electrical processor to make a comparison of said set temperature with said temperature signal and to direct said electrical controller to apply varying amounts of power to said heater in response to said comparison.
10. An electrically heated liquid kettle according to Claim 9 where said processor directs said controller to apply maximum power to said heater during the heat up and further directs said heater to apply less than maximum power to said heater as the temperature of said liquid approaches the set temperature.
11. An electrically heated liquid kettle comprising a vessel for holding a liquid for extraction of coffee, tea, or other food material, an electric heater to heat the liquid to a predetermined set temperature selected by the user, a visual indicator of said set temperature selected by the user, a precise electrical sensor of temperature of the liquid and an electrically powered visual or audible alarm that annunciates when said liquid temperature reaches said set temperature.
12. An electrically heated liquid kettle comprising a vessel for holding a liquid for extraction of tea, coffee or other food material, an electric heater powered by an electrical controller directed by an electrical processor to heat the liquid to a

predetermined set temperature and to maintain the liquid at said set temperature, and a user actuated electrical control to initiate the brewing cycle time of the material.

13. An electrically heated liquid kettle according to Claim 12 where said user control also directs said processor to direct said controller to maintain said liquid at said set
5 temperature for at least some portion of the brewing cycle time of said material.

14. An electrically heated liquid kettle according to Claim 12 where said user control directs said processor to direct said controller to initiate the brewing cycle time of the material and to terminate the maintenance of said set temperature during the brewing cycle time.

10 15. An electrically heated liquid kettle according to Claim 12 including a partially open immersible container for the food material, an electrically actuated holder to maintain said container above the liquid, and the said user actuated electrical control initiates the said brewing cycle time and actuates said holder to allow said container to immerse in the liquid.

15 16. An electrically heated liquid kettle according to Claim 12 comprising an electric timer settable to a selected length of brewing time where said user actuated electrical control initiates the brewing cycle time of the material and directs said timer to count down the time and to initiate a visual or audible alarm to announce the end of said cycle time.

20 17. An electrically powered heated liquid kettle comprising a lidded but unsealed vessel for holding a vaporizable liquid, a heater capable of heating the liquid in said vessel to the boiling temperature of the liquid at the prevailing atmosphere pressure, a sensor for measuring the temperature of the liquid or the temperature of the air/vapor mixture immediately above the liquid in said vessel and generating an electrical
25 signal corresponding to said temperature, and an electrical processor to receive said signal and to analyze the rate of rise of said signal with the power applied to said heater as an indicator of boiling of said liquid when the measured temperature levels off and to cause the interruption or reduction of power to said heater.

18. An electrically powered heated kettle comprising a lidded but unsealed vessel for holding a vaporizable liquid, a heater capable of heating the liquid in said vessel to the boiling point of the liquid at the prevailing atmospheric pressure, an electrical control to preset the desired temperature of the liquid, an electrical signal processor
5 directed by said electrical control to direct a controller of the flow of electrical power to said heater, an electrical sensor to generate an electrical signal proportioned to the temperature of the liquid or the air/vapor mixture directly above the liquid in said vessel as the liquid is heated by said heater to the boiling point, and to transmit said signal to said electrical processor, whereby said processor can determine therefrom
10 when the liquid is boiling, to determine and store the exact value of temperature of said boiling point and to prevent the subsequent adjustment of said set desired temperature to any value above said boiling temperature as established by said processor.
19. An electrically heated covered liquid kettle comprising a vessel for holding a liquid material for the extraction of tea, coffee or other food material, the interior walls of said vessel being of nominally uniform internal dimensions along a major length of said vessel, a manually operated removable screen-like filter contacting and close
15 fitting to said interior walls along said major length of said vessel, a manually operated partially open immersible container capable of holding the material spaced sufficiently apart from said walls to allow free passage of liquid between the walls of said vessel and said container, and one or more manually operated physical members extending through said cover used individually or interchangeably to hold said
20 screen-like filter and said container above the liquid and to lower said filter and said container into the liquid.
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